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EXAMINER	
KOSOWSKI, ALEXANDER J	

ART UNIT	PAPER NUMBER
2125	

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/817,529	HEMINWAY ET AL.	
	Examiner	Art Unit	
	Alexander J. Kosowski	2125	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *19 July 2006*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-52,56-72 and 76-80* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-52,56-72 and 76-80* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *02 April 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *4/2/04*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1) Claims 1-52, 56-72 and 76-80 are presented for examination in light of the response to restriction filed 7/19/06.

Claim Rejections - 35 USC § 101

2) 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

3) Claim 76 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Under the statute, the claimed invention must fall into one of the four recognized statutory classes on invention, namely, a process (or method); a machine (or system); an article of manufacture; or a composition of matter. Claim 76 appears to be directed toward merely database tables. However, it is unclear as to which recognized statutory class the invention of claim 76 is directed. In particular, a database table is not a process or method as it lacks a series of steps. A database table is not a machine or system as there is no specific recitation of machine or system components. A database table is not recognized as a composition of matter. A database table, per se, is merely a collection of data. In light of the above, it is respectfully submitted that the claimed invention fails to satisfy the requirements of 35 U.S.C. 101.

Claim Rejections - 35 USC § 102

4) The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5) Claims 16-17, 20-22, 24-25, 28, 31-32, 34, 35, 39, 41-49, 52, 56, 59, 61-62, 65-66, 68, 71, 77, 78 and 80 are rejected under 35 U.S.C. 102(b) as being unpatentable by Kline, Jr et al (U.S. Pat 5,499,188).

Referring to (claim 16), Kline teaches a method for automating a sequence of process flow operations, said method comprising: receiving a recipe by a process control module, said recipe including a plurality of unit operations (col. 10 lines 6-49), each of said plurality of unit operations describing a process flow step in terms of at least one chemical and/or physical step to be performed (col. 10 lines 1-49 and col. 13 lines 9-13); executing said plurality of unit operations (col. 8 lines 49-67) including the steps of: executing one of said plurality of unit operations and starting a parallel group (col. 11 lines 35-67, whereby operations can be executed in parallel), classifying a next one of said plurality of unit operations as one of a parallel operation and a sequential operation (col. 12 lines 15-30, whereby each recipe step is determined to be conditional or not), executing said parallel operation as part of said parallel group and repeating said step of classifying, waiting for said parallel group to complete execution, executing said sequential operation and starting a new parallel group, and repeating said step of classifying (col. 8 lines 39-67 and col. 11 line 35 through col. 12 line 34, whereby operations may be initiated in parallel or may be classified as conditional (i.e. sequential), and whereby the production run is commanded to go through each operation of the recipe after each operation has been classified appropriately).

Referring to (claim 17), Kline teaches that each of said step of executing said parallel operation and said step of executing said sequential operation includes the step of passing a set of

data from said process control module to a hardware control module, said hardware control module performing a set of instructions to manipulate a plurality of process hardware to perform a process flow step (col. 8 lines 49-67), (claim 20) wherein said process control module communicates with a hardware control module responsible for providing an interface to a plurality of process hardware (col. 5 lines 50-67), (claim 21) wherein said execution loop further includes a step of correlating one of a plurality of input/output points with one of a plurality of hardware devices, thereby allowing said process control module to communicate with a hardware control module (col. 5 lines 50-67 and col. 7 lines 26-67), and (claim 22) wherein said execution loop further includes a step of correlating one of a plurality of hardware devices with one of a plurality of input/output points, thereby allowing a hardware control module to communicate with said process control module (col. 5 lines 50-67 and col. 7 lines 26-67).

Referring to (claim 24), Kline teaches a computer system for automating a sequence of process flow operations, said computer system comprising: a controller having an input/output component and a processing component (col. 5 lines 50-67), said input/output component for communicating with a workstation and process hardware (col. 4 lines 50-67 and col. 5 lines 33-49), said processing component programmed to execute a process including the steps of: receiving a recipe, said recipe including a plurality of unit operations (col. 10 lines 6-49), each of said plurality of unit operations describing a process flow step in terms of at least one chemical and/or physical step to be performed (col. 10 lines 1-49 and col. 13 lines 9-13); executing said plurality of unit operations including the steps of: executing one of said plurality of unit operations, determining if a next one of said plurality of unit operations is executable in parallel

with said one of said plurality of unit operations and, if so, executing said next one of said plurality of unit operations (col. 11 lines 35-67, whereby operations can be executed in parallel) and repeating said step of determining until said next one of said plurality of unit operations is determined not to be executable in parallel (col. 12 lines 15-30, whereby each recipe step is determined to be conditional or not), and waiting for execution of said one of said plurality of unit operations to be completed if said next one of said plurality of unit operations is determined not to be executable in parallel with said one of said plurality of unit operations (col. 8 lines 39-67 and col. 11 line 35 through col. 12 line 34, whereby operations may be initiated in parallel or may be classified as conditional (i.e. sequential), and whereby the production run is commanded to go through each operation of the recipe after each operation has been classified appropriately).

Referring to (claim 25), Kline teaches wherein said step of executing one of said plurality of unit operations includes a step of passing a set of data to a hardware control module from a process control module, executing a set of instructions by said hardware control module to manipulate said plurality of process hardware to perform said process flow step defined by said one of said plurality of unit operations (col. 8 lines 49-67), (claim 28) wherein said workstation communicates said recipe and at least one command to a process control program being executed by said controller (col. 8 lines 49-67), (claim 31) wherein said processing component further executes a process step including correlating each of a plurality of input/output points to a corresponding one of a plurality of hardware devices whereby said process control module receives data from one of said plurality of input/output points and said process control module determines said corresponding one of said plurality of hardware devices (col. 5 lines 50-67 and col. 7 lines 26-67), and (claim 32) wherein said processing component further executes a process

step including correlating each of a plurality of hardware devices to a corresponding one of a plurality of input/output points whereby a hardware control module determines said corresponding one of said plurality of input/output points and said hardware control module communicates with one of said plurality of input/output points (col. 5 lines 50-67 and col. 7 lines 26-67).

Referring to (claim 34), Kline teaches a controller for automating a sequence of process flow operations, said controller comprising: an input/output component adapted to communicate with a workstation and a plurality of process hardware (col. 4 lines 50-67 and col. 5 lines 33-67); and a processing component programmed to execute a process including the steps of: receiving a recipe including a plurality of unit operations (col. 10 lines 6-49), each of said plurality of unit operations describing a process flow step in terms of at least one chemical and/or physical step to be performed (col. 10 lines 1-49 and col. 13 lines 9-13); executing said plurality of unit operations including the steps of: executing one of said plurality of unit operations and starting a parallel group (col. 11 lines 35-67, whereby operations can be executed in parallel), classifying a next one of said plurality of unit operations as one of a parallel operation and a sequential operation (col. 12 lines 15-30, whereby each recipe step is determined to be conditional or not), executing said parallel operation as part of said parallel group and repeating said step of classifying, waiting for said parallel group to complete execution, executing said sequential operation and starting a new parallel group, and repeating said step of classifying (col. 8 lines 39-67 and col. 11 line 35 through col. 12 line 34, whereby operations may be initiated in parallel or

may be classified as conditional (i.e. sequential), and whereby the production run is commanded to go through each operation of the recipe after each operation has been classified appropriately).

Referring to (claim 35), Kline teaches wherein said step of executing one of said plurality of unit operations, said step of executing said parallel operation, and said step of executing said sequential operation each including a step of passing a set of data to a hardware control module from a process control module, said hardware control module executing a set of instructions including a step of manipulating said plurality of process hardware to perform said process flow step (col. 8 lines 49-67), (claim 39) further including a correlating one of a plurality of devices to one of a plurality of input/output points, whereby a set of data is passed between a process control program and a hardware control program, said process control program dealing with said plurality of devices and said hardware control program dealing with said plurality of input/output points (col. 5 lines 50-67 and col. 7 lines 26-67).

Referring to (claim 41), Kline teaches a controller for automating a sequence of process flow operations, said controller comprising: an input/output component adapted to communicate with a workstation and process hardware (col. 4 lines 50-67 and col. 5 lines 33-67); a process control program for executing a recipe including a plurality of unit operations (col. 10 lines 6-49), each of said plurality of unit operations describing a process flow step in terms of at least one chemical and/or physical step to be performed (col. 10 lines 1-49 and col. 13 lines 9-13), said process control program receiving said recipe through said input/output component (col. 10 lines 6-49); a hardware control program for monitoring and controlling said process hardware through said input/output component, said process control program communicating with said

hardware control program (col. 8 lines 49-67); and a processing component programmed to execute said process control program and said hardware control program (col. 5 lines 50-67).

Referring to claim 42, see rejection of claim 34 above.

Referring to (claim 43), Kline teaches that said hardware control program is programmed to execute a process including the steps of: receiving a set of values from said process control program; sending a set of data to a selected device of said plurality of process hardware, said set of data corresponding to said set of values (col. 8 lines 49-67), (claim 44) wherein said hardware control program is programmed to execute a process including the steps of: receiving a set of data from a selected device of said plurality of process hardware; sending a set of values to said process control program, said set of data corresponding to said set of values (col. 8 lines 49-67), (claim 45) wherein said process control program includes a plurality of process objects representing a plurality of process elements, each of said plurality of process objects including at least one property and at least one method for manipulating one of said plurality of process elements (col. 9 lines 46-65), (claim 46) wherein said hardware control program includes a plurality of hardware objects each representing a hardware device from said plurality of process hardware, each of said plurality of hardware objects including at least one property and at least one method for directly monitoring and/or controlling said hardware device (col. 5 lines 50-67), (claim 47) wherein said process control program includes a plurality of process objects representing a plurality of process elements and said hardware control program includes a plurality of hardware objects each representing a hardware device from said plurality of process hardware, each of said plurality of process objects including at least one property and at least one method for manipulating one of said plurality of process elements, each of said plurality of

hardware objects including at least one property and at least one method for directly monitoring and/or controlling said hardware device, said plurality of process objects communicating with said plurality of hardware objects (col. 5 lines 50-67 and col. 8), (claim 48) wherein said process control program and said hardware control program execute a process including a step of correlating one of a plurality of devices to one of a plurality of input/output points, whereby a set of data is passed between said process control program and said hardware control program, said process control program dealing with said plurality of devices and said hardware control program dealing with said plurality of input/output points (col. 5 lines 50-67 and col. 8 lines 49-67), (claim 49) wherein said process control program passes a set of data to said hardware control program, said hardware control program executing a set of instructions manipulating said plurality of process hardware to perform said process flow step defined by said one of said plurality of unit operations (col. 8 lines 49-67).

Referring to (claim 52), Kline teaches a controller for automating a sequence of process flow operations, said controller comprising: an input/output component adapted to communicate with a workstation and process hardware (col. 4 lines 50-67 and col. 5 lines 33-67); and a process control program for executing a recipe including a plurality of unit operations (col. 10 lines 6-49), each of said plurality of unit operations describing a process flow step in terms of at least one chemical and/or physical step to be performed (col. 10 lines 1-49 and col. 13 lines 9-13), said process control program receiving said recipe through said input/output component (col. 10 lines 6-49), said process control program including a plurality of process objects representing a plurality of process elements, each of said plurality of objects including at least

one property and at least one method for manipulating one of said plurality of process elements (col. 10); and a hardware control program for monitoring and controlling said plurality of process hardware through said input/output component, said hardware control program including a plurality of hardware objects each representing a hardware device from said plurality of process hardware, each of said plurality of objects including at least one property and at least one method for directly monitoring and/or controlling said hardware device (col. 8 lines 49-67 and col. 10), said plurality of process objects communicating with said plurality of hardware objects and a processing component programmed to execute said process control program and said hardware control program (col. 5 lines 50-67).

Referring to claim 56, the claim contains limitations essentially identical to claim 16. Therefore, referring to claim 56, see rejection of claim 16 above.

Referring to (claim 59), Kline teaches wherein said step of executing one of said plurality of unit operations, said step of executing said parallel operation, and said step of executing said sequential operation each includes a step of passing a set of data to a hardware control module from a process control module, said hardware control module performing a set of instructions manipulating said plurality of process hardware to perform said process flow step (col. 8 lines 49-67), (claim 61) further including a step of correlating one of a plurality of devices to one of a plurality of input/output points, whereby a set of data is passed between a process control program and a hardware control program, said process control program dealing with said plurality of devices and said hardware control program dealing with said plurality of input/output points (col. 8 lines 49-67 and col. 9).

Referring to claim 62, the claim varies from claim 16 in that it claims a computer program rather than a method. The method taught in claim 16 could inherently be implemented as a computer program. Therefore, referring to claim 62, see rejection of claim 16 above.

Referring to (claim 65), Kline teaches that the step of executing one of said plurality of unit operations, said step of executing said parallel operation, and said step of executing said sequential operation each include a step of passing a set of data to a hardware control module from a process control module, said hardware control module executing a set of instructions manipulating said plurality of process hardware to perform said process flow step (col. 5), (claim 66) further including a step of using a lookup table correlating one of a plurality of devices to one of a plurality of input/output points, whereby a set of data is passed between a process control program and a hardware control program, said process control program dealing with said plurality of devices and said hardware control program dealing with said plurality of input/output points (col. 5 and col. 8).

Referring to claim 68, the claim varies from claim 24 in that it claims a method rather than a system. The system taught by claim 24 inherently teaches an identical method. Therefore, referring to claim 68, see rejection of claim 24 above.

Referring to claim 71, see rejection of claim 66 above.

Referring to claim 77, Kline teaches an interface for processing an automated sequence of process flow operations, the interface comprising computer readable program code devices for: accepting a plurality of unit operations forming a recipe (col. 10); accepting an execute

command to initiate execution of a loop wherein said plurality of unit operations are executed (col. 8 lines 49-67), said loop including the steps of: executing one of said plurality of unit operations and starting a parallel group (col. 11 lines 35-67, whereby operations can be executed in parallel), classifying a next one of said plurality of unit operations as one of a parallel operation and a sequential operation (col. 12 lines 15-30, whereby each recipe step is determined to be conditional or not), executing said parallel operation as part of said parallel group and repeating said step of classifying, waiting for said parallel group to complete execution, executing said sequential operation and starting a new parallel group, and repeating said step of classifying (col. 8 lines 39-67 and col. 11 line 35 through col. 12 line 34, whereby operations may be initiated in parallel or may be classified as conditional (i.e. sequential), and whereby the production run is commanded to go through each operation of the recipe after each operation has been classified appropriately); and sending a data stream including a recipe state, a unit operation state, and at least one device state (col. 8 lines 49-67 and col. 10).

Referring to claim 78, Kline teaches a method in a computer system for editing a recipe by a user, comprising: presenting to the user a first list of a plurality of available unit operations (col. 9 line 30 through col. 10 line 29); presenting to the user a recipe list of a plurality of selected unit operations defining said recipe (col. 10 lines 29-49); presenting to the user a resource list including a plurality of resources based on said plurality of selected unit operations and allowing the user to add at least one of said plurality of available unit operations to said recipe list (col. 11 line 35 through col. 13 line 14); allowing the user to delete at least one of said plurality of available unit operations from said recipe list and allowing the user to edit the

resources for one of said plurality of selected unit operations (col. 9 line 29 through col. 10 line 67, whereby a user of the recipe builder can create custom recipes from multiple resources).

Referring to claim 80, see rejection of claim 78 above.

Claim Rejections - 35 USC § 103

6) The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7) Claims 1-4, 6-7, 11-14, 27 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kline, Jr et al (U.S. Pat 5,499,188), further in view of Safir et al (U.S. Pat 6,994,827).

Referring to (claim 1), Kline teaches an apparatus for automating production by executing a sequence of process flow operations, said apparatus comprising: a workstation (col. 4 lines 50-67) having a processing component programmed to execute a process including the steps of: providing a recipe editor for creating and maintaining a recipe and providing operations control for executing said recipe (col. 10 lines 29-67) and a controller having an input/output component and a processing component (col. 5 lines 50-67), said controller communicating with said workstation (col. 5 lines 33-49), said controller processing component programmed to execute a process (col. 8 lines 49-67) including the steps of: receiving a plurality of unit operations forming said recipe, each said unit operation describing a chemical process step (col. 10 lines 1-49 and col. 13 lines 9-13), executing said plurality of unit operations (col. 8 lines 49-

67) and process hardware in communication with said input/output component of said controller (col. 8 lines 20-48). However, Kline does not explicitly teach that said process hardware is adapted to produce a radiopharmaceutical and includes a reagent delivery system and a reaction vessel with an associated heating and purging system.

Safir teaches a chemical compounding system which is based off of a recipe and controlled through a GUI and controller and utilizes reaction vessels and heating and purging systems in addition to reagent delivery systems to create mixtures of chemicals (columns 7-8 and 28, whereby radiopharmaceuticals are a well known type of chemical mixture).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to utilize the system taught by Kline above in combination with the components taught by Safir to create radiopharmaceuticals since this would allow control over combinations of multiple reactants, including volume, sequence, and temporal profile (Safir, col. 6 lines 1-5) and since the use of a GUI and controller interface for such a compounding system would allow a user to define detailed feed plans for reactions associated with multiple reaction vessels (Safir, col. 28 lines 20-25).

Referring to (claim 2), Kline teaches that each of said plurality of unit operations describes a process flow step in terms of the chemical and physical steps to be performed (col. 10 lines 1-49 and col. 13 lines 9-13), (claim 3) that each of said plurality of unit operations calls a software routine programmed to perform a set of instructions to manipulate said plurality of process hardware to perform a process flow step (col. 8 lines 49-67), (claim 4) that said workstation communicates said recipe and at least one command to a process control program being executed by said controller (col. 8 lines 49-67), (claim 6) wherein said process step of

providing operations control being executed by said workstation processing component includes the steps of: selecting said recipe for execution from a library, sending said recipe to said controller, and sending an execute command to said controller (col. 8 lines 49-67), (claim 7) wherein said step of sending said recipe includes sending said plurality of unit operations to said controller (col. 8 lines 49-67), (claim 11) wherein said controller processing component includes a process control program and a hardware control program, said process control program including a step of communicating with said hardware control program (col. 5), (claim 12) wherein said controller processing component includes a process control program and a hardware control program, said hardware control program having a plurality of instructions executable by the controller, said hardware control program including a step of communicating with said process control program and a step of communicating with said plurality of process hardware (col. 5), (claim 13) wherein said controller processing component includes a process control program and a hardware control program, said process control program having a lookup table correlating each of said plurality of input/output points to a corresponding device, said process control program receiving data from one of said plurality of input/output points and said process control program executing a step to determine said corresponding device (col. 5 and col. 8), (claim 14) and wherein said controller processing component includes a process control program and a hardware control program, said hardware control program having a lookup table correlating each of said plurality of devices to each of said input/output points whereby said hardware control program receives instructions to be communicated to one of said plurality of devices and said hardware control program executes a step to determine said corresponding input/output point (col. 5 and col. 8).

Referring to claim 27, see rejection of claim 1 above.

Referring to claim 38, Kline teaches the above. However, Kline does not explicitly teach storing a recipe in a queue after said step of receiving said recipe.

Examiner notes that it would have been obvious at the time the invention was made to utilize a queue to store the recipe taught above since the use of a queue for storing data is well known in the control systems arts and since storing a recipe would allow a previous operation to finish before the most recent recipe is initiated.

8) Claims 5, 8 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kline, further in view of Safir, further in view of. Funk et al (U.S. PGPUB 2005/0187649).

Referring to claims 5 and 8, Kline and Safir teach the above. However, they do not explicitly teach communicating a recipe state and at least one device state to a workstation, nor receiving a stream of data from the controller, said stream also including a recipe state, unit operation state and device state.

Funk teaches a monitoring and control apparatus for process flow operations which utilizes a recipe and allows monitoring of the states of a controller and of process tools (Paragraphs 0004-0005 and 0034-0036 and 0147-0148).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to monitor data from a controller and operation units including operation state, device state, and recipe state in the invention taught above since this would allow for the control and monitoring of process flows (Funk, Paragraph 0004), and since this would also allow detection of abnormalities and characteristic deterioration of a process (Funk, Paragraph 0005).

Referring to claim 15, see rejection of claims 5 and 8 above.

9) Claims 9-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kline, further in view of Safir, further in view of Christian et al (U.S. Pat 6,684,122).

Referring to claims 9-10, Kline and Safir teach the above. However, they do not explicitly teach sending a reset command to said controller before sending said recipe, nor receiving a reset command by the controller and initializing said controller before receiving said unit operations.

Christian teaches a control apparatus for controlling process flows operations which sends instructions for a process controller to reset itself before receipt of new of new instructions (col. 4 lines 17-29 and col. 7 lines 23-30).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to send reset commands to a controller in the invention taught above since a reset would allow operating parameters to be reset to match conditions in various processing chambers (Christian, col. 7 lines 15-30).

10) Claims 18, 23, 26, 29, 33, 36, 40, 50-51, 58, 60, 64, 67, 70, 72, 76 and 79 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kline, further in view of Funk.

Referring to claims 18, 23, see rejection of claims 5 and 8 above.

Referring to claim 26, Kline teaches the above. In addition, Kline teaches that said workstation has a processing component, said workstation processing component programmed to execute a process including the steps of: providing a recipe editor for creating and maintaining

said recipe, and providing operations control for executing said recipe (col. 4 and col. 10). However, Kline does not explicitly teach displaying at least one process variable during execution of said recipe.

Funk teaches a monitoring and control apparatus for process flow operations which utilizes a recipe and allows monitoring of the states of a controller and of process tools (Paragraphs 0004-0005 and 0034-0036 and 0147-0148).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to display a process variable in the invention taught above since this would allow for the control and monitoring of process flows (Funk, Paragraph 0004), and since this would also allow detection of abnormalities and characteristic deterioration of a process (Funk, Paragraph 0005).

Referring to claims 29, 33, 36, 40, 50-51, 58, 60, 64, 67, 70, 72, see rejection of claims 5 and 8 above.

Referring to claim 76, Kline teaches a computerized system for controlling process flows, comprising a list table containing a set of recipe data including a list of at least one recipe and a recipe table containing a set of unit operation data including a list of a plurality of unit operations and a unit operation table containing a set of parameters relating to each of said plurality of unit operations (col. 4 and col. 8 and col. 10). However, Kline does not explicitly teach that said recipe table contains a set of recipe live data, said recipe live data including a recipe status, a recipe start time and date, and a recipe finish time and date nor said unit operation table containing a set of unit operation live data, said unit operation live data including a unit operation status, a unit operation start time and date, and a unit operation finish time and date.

Funk teaches a monitoring and control apparatus for process flow operations which utilizes a recipe and allows monitoring of the states of a controller and of process tools (Paragraphs 0004-0005 and 0034-0036 and 0147-0148), and which receives data including recipe status and operation status and live data (Paragraphs 00147-00148) and start and finish times (Paragraph 0044).

Therefore, it would have been obvious to one skilled in the art at the time the invention was made to utilize the recipe and unit operation tables taught by Funk in the invention taught by Kline since this would allow for the control and monitoring of process flows (Funk, Paragraph 0004), and since this would also allow detection of abnormalities and characteristic deterioration of a process (Funk, Paragraph 0005).

Referring to claim 79, see rejection of claim 76 above.

11) Claims 19, 30, 37, 57, 63 and 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kline, further in view of Christian.

Referring to claims 19, 30, 37, 57, 63, 69, see rejection of claims 9-10 above.

Conclusion

12) Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexander J Kosowski whose telephone number is 571-272-3744. The examiner can normally be reached on Monday through Friday, alternating Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on 571-272-3749. The fax phone number for the

organization where this application or proceeding is assigned is 571-273-8300. In addition, the examiner's RightFAX number is 571-273-3744.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 571-272-2100.

Alexander J. Kosowski
Patent Examiner
Art Unit 2125